

**COMPARISONS OF
FIVE NUMERICAL METHODS FOR FINDING THE ROOTS
OF NONLINEAR FUNCTIONS**

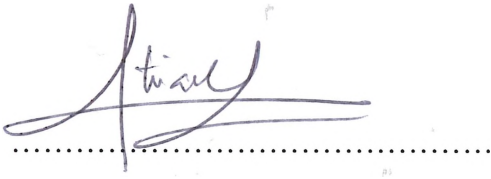
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**Thesis Submitted in Fulfillment of the Requirement for
Bachelor of Science (Hons.) Computational Mathematics in the
Faculty of Computer and Mathematical Sciences
Universiti Teknologi Mara**

January 2019

DECLARATION BY CANDIDATE

I certify that this report and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

A handwritten signature in black ink, appearing to read 'Atiqah', is written over a horizontal dotted line.

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ABSTRACT

Most problems in engineering and science field can be in the form of root finding. In addition, the solution of finding the root of function can be solved either in analytical methods and numerical methods. However, these analytical methods are quite complicated and difficult. Researcher tends to use numerical method in the form of bracketing method which is quite simple and easy compared to the analytical method. In this research, five different bracketing method that is Bisection, Regular Falsi, Improved Regular Falsi, n -th section and Improved n -th section method are used to approximate the root of ten different function in the form of trigonometric, polynomial, exponential and logarithmic function. The result is based on number of iteration, CPU time and error analysis from three difference tolerance. Numerical result show that the Improved Regular Falsi is the best method in terms of number of iterations for finding the root of function. Whereas, Regular Falsi is the best method in terms of CPU time.

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